WHAT IS CLAIMED IS:

1. A data storage system, including

a set of disks, each of the set of disks being operable in a plurality of discrete angular velocity levels;

a disk controller enabled to control the angular velocity of each active disk in the set of disks and configured to replicate a first portion of data on a plurality of the set of disks and to store a second class of data in the set of disks without replication; and

wherein the disk controller is configured to route requests for data in the first portion of data to one of the active disks based, at least in part, on the current loading of the active disks and wherein the disk controller is further configured to alter the angular velocity of at least one of the active disks responsive to determining that the latency associated with one or more of the data requests differs from a specified threshold.

2. The system of claim 1, wherein the disk controller is further configured to replicate the first portion of data on each of the disks in the set of disks.

3. The system of claim 1, wherein the disk controller balances the loading on the active disks by routing an incoming request to the active disk with the least loading.

4. The system of claim 3, wherein each of the disks is capable of rotating at any of a set of discrete angular velocity levels and wherein the disk controller prevents the angular velocity of any active disk from differing from the angular velocity of any other active disk by more than one discrete level.

5. The system of claim 4, wherein altering the angular velocity includes increasing the angular velocity of at least one of the active disks to the next highest discrete level if the latency is unacceptably high.

6. The system of claim 4, wherein altering the angular velocity of includes decreasing the angular velocity of at least one of the active disks to the next lowest discrete level if the latency is below a specified threshold.

7. The system of claim 1, wherein the disk controller recognizes two or more levels of request priorities and wherein the disk controller routes requests of a first priority to an active disk in a first subset of active disks based, at least in part, on the current loading of the disks in the first subset and the disk controller routes requests of a second priority to an active disk in a second subset of active disks based, at least in part, on the current loading of the disks in the second subset.

8. A disk controller computer program product including computer executable instructions, stored on a computer readable medium, for conserving power consumption in a dynamic RPM (DRPM) disk subsystem, comprising:

disk controller computer code means for replicating a first portion of data on a plurality of the set of disks and for activating two or more of the disks;

disk controller computer code means for storing a second class of data in the set of disks without replication; and

disk controller code means for maintaining the angular velocity of each of the active disks at a minimum angular velocity sufficient to attain a specified performance level.

9. The computer program product of claim 8, wherein the code means for replicate the first portion of data comprises code means for replicating the first portion of data on each of the disks in the set of disks.

10. The computer program product of claim 8, further comprising code means, responsive to a request for data on disk subsystem, for balancing the loading on the active disks by routing the request to the active disk with the least loading.

11. The computer program product of claim 10, wherein each of the disks is capable of rotating at any of a set of discrete angular velocity levels and wherein the computer program product further includes code means for preventing the angular velocity of any active disk from differing from the angular velocity of any other active disk by more than one discrete level whereby the angular velocities of all of the active disks are approximately equal.

12. The computer program product of claim 11, wherein altering the angular velocity includes increasing the angular velocity of at least one of the active disks if the latency is unacceptably high.

13. The computer program product of claim 11, wherein altering the angular velocity includes decreasing the angular velocity of at least one of the active disks if the latency is below a specified threshold.

14. The computer program product of claim 8, wherein the disk controller recognizes two or more levels of request priorities and further code means for routing requests of a first priority to an active disk in a first subset of active disks based, at least in part, on the current loading of the disks in the first subset and the disk controller routes requests of a second priority to an active disk in a second subset of active disks based, at least in part, on the current loading of the disks in the second subset.

15. A method for conserving power consumption in a dynamic RPM (DRPM) disk subsystem, comprising:

replicating a first portion of data on a plurality of the set of disks;

storing a second class of data in the set of disks without replication;

activating two or more of the set of disks; and

maintaining the angular velocity of each of the active disks at a minimum angular velocity sufficient to attain a specified performance level.

16. The method of claim 15, wherein replicating the first portion of data comprises replicating the first portion of data on each of the disks in the set of disks.

17. The method of claim 8, further comprising, responsive to a request for data on disk subsystem, balancing the loading on the active disks by routing the request to the active disk with the least loading.

18. The method of claim 17, wherein each of the disks is capable of rotating at any of a set of discrete angular velocity levels and wherein the method further includes preventing the angular velocity of any active disk from differing from the angular velocity of any other active disk by more than one discrete level whereby the angular velocities of all of the active disks are approximately equal.

19. The method of claim 18, wherein altering the angular velocity includes increasing the angular velocity of at least one of the active disks if the latency is unacceptably high.

20. The method of claim 19, wherein altering the angular velocity of includes decreasing the angular velocity of at least one of the active disks if the latency is below a specified threshold.

21. The method of claim 15, wherein the disk controller recognizes two or more levels of request priorities and further code means for routing requests of a first priority to an active disk in a first subset of active disks based, at least in part, on the current loading of the disks in the first subset and the disk controller routes requests of a second priority to an active disk in a second subset of active disks based, at least in part, on the current loading of the disks in the second subset.